

## “Get Rich Quick” Growing Native Grass Seed

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Sales and prices of native grass seeds have risen dramatically in recent years. Major reasons for this were the requirements for native species in new CRP contracts and re-vegetation of public lands disturbed by fire, road construction and other activities. Other factors were recent poor production years for both introduced and native species, which led to short supplies/higher prices of some species. Many Montana producers faced with low grain or cattle prices are considering grass seed harvest on a portion of their native or introduced pastures. Others have expressed an interest in “new” grass crops such as Indian ricegrass, which is being grown for use in gluten-free flour products. Crop values for many of the grass seeds are quite high, but in general these are more difficult to produce than conventional grain crops.

### Background

Much of the short, tall and mixed-grass prairie lands in the northern Great Plains are suitable for grass seed production. Prior to western settlement, native species like big bluestem, little bluestem, switchgrass and Indian ricegrass were predominant in the higher-rainfall areas of the tall grass prairies. Short grass prairies consisted of blue grama and buffalograss, whereas in the transitional, “mixed” areas many of the wheatgrass and needlegrass species also were adapted. In the Rocky Mountains, a fourth ecozone is predominated by fescue species and oatgrass. Generally, the native species evolved over time to be very hardy under the harsh conditions of drought, cold and fire.

Many native grasses have deep extensive root systems, but generally they evolved to have “conservative” seed production. Many of the native species have excellent palatability and forage production, but seed production is generally inferior to the introduced species. Variation in seed dormancy is often significant in native grasses, and this enables these species to adapt to challenging environments. As ranches were established and sod was plowed for farms, seed of several species such as alfalfa, crested wheatgrass and smooth brome grass were introduced to renovate pastures or to reclaim abandoned farms. The introduced species generally had faster seedling establishment and superior production levels compared to the native grasses. Over time, a very specialized forage seed industry has developed for production of the introduced grasses and legumes.

Since the 1950’s there has been more interest in seed production and utilization of the native grass species. The Soil Conservation Service (now Natural Resources Conservation Service), Forest Service, National Park Service and other agencies have used native species for restoration projects, revegetation, prevention of soil erosion, and maintaining the diversity of grasslands. Generally, the native species have low seed production and seed quality, and few producers or researchers have successfully “tamed” these species for reliable seed production and seed quality.

For some native species, specialized seed production practices have been adapted from the introduced species. Most of the released cultivars of native species are grown under irrigated conditions, and managed for optimum seed production. In many cases, seed from native

species is still harvested on a small-scale by hand or small equipment from sites where the desired species predominates.

There are now programs within seed certification agencies for “source identification” that parallels the seed certification programs for established crops. Source identification provides for the use of adapted native biotypes, and is intended to reduce the selection or introduction of narrowly-adapted populations. As markets for native seeds expand, all of the native seed harvested from wildland stands should be tested by the same standard testing procedures for seed germination and purity as other crops. The source-identified certification insures on-site identification and labeling for quality assurance. This informs seed buyers of genetic integrity, adaptation, and viability for the intended use.

Harvesting seed in an existing stand (“catch crop”) of native species is an option. For a catch crop, very few seed production variables can be controlled, and seed yields and quality are erratic. Poor moisture throughout Montana last winter and this spring may already have reduced reproductive tillers and potential seed set. If you have a fairly uniform stand of grass that could potentially be harvested – have all species in the stand properly identified. If there are noxious weeds or other species present (other grasses which can not be cleaned out, etc.) some spot spraying, mowing or roguing will be necessary.

Growing grass seed “on purpose”: Due to the current high prices of native grass seeds, many inexperienced producers are interested in grass seed production. Experienced seed growers have developed their methods over a period of years, and they have weathered the good and bad climate conditions and markets. Many started with small acreages to minimize risk, but they continue to be challenged by weeds, insects, diseases, climate and markets. In short, experienced growers are in a better position to maximize seed production in the current market. Several considerations for grass seed production are:

1. Species - some of the native cool-season grasses which are currently popular include: Indian ricegrass, Alpine bluegrass, basin wildrye, beardless wheatgrass, beardless wildrye, bluebunch wheatgrass, Canada wildrye, Canby bluegrass, green needlegrass, Idaho fescue, Junegrass, rough fescue, needle-and-thread grass, thickspike wheatgrass, slender wheatgrass, streambank wheatgrass, and western wheatgrass. Some of the warm-season species are: big bluestem, blue grama, Indiangrass, little bluestem, prairie cordgrass, sand bluestem, side-oats grama, and switchgrass. Species selection is of utmost importance for new growers; experienced seed producers are best suited to grow the “difficult” native species, and novice growers should begin on a small scale with “easier” grass seed crops. Before establishing a new grass seed field, always visit with a reputable seed dealer or cleaner in your area. These individuals are active in the seed industry, and can assist in determining the potential yield, as well as future demand and value of your seed crop.
2. Production guidelines for new stands such as seeding, row spacing, fertilization, weed control, and harvest management to optimize seed yield are available. These practices are outlined in a “for-sale” publication - “Native Grass Seed Production Manual” (1996, available from the Manitoba Forage Seed Association, Box 2000, Arborg, Manitoba R0C0A0 Canada). Of major importance to new grass stands are previous crop history and weed control, planting equipment and technique, and first-year management. For example, wild oat and volunteer grain must be controlled in new grass stands. Of particular concern for the 2002 crop year is the prevalent dry winter and spring

conditions in Montana. In order to successfully establish grass on dryland, we recommend that there is a minimum of 2 feet of moist soil, with the expectation of “normal” precipitation in April through June. Under ideal conditions in rows, many of the cool season native grasses can produce up to about 250 pounds of seed per acre by the second year of production.

3. Harvest – Grass seed harvest can be challenging for the most experienced grower. A major limitation for many native grasses is their tendency to shatter seed before or during harvest. Under irrigation or in an area where the grass seed matures uniformly, several grasses can be direct-combined in the hard dough to mature seed stage. Seed strippers are used to direct harvest seed of big bluestem, blue grama, green needlegrass, Indiangrass, little bluestem, needle-and-thread grass, sand bluestem, and side-oats grama. However windrowing is necessary for most wheatgrasses and wildryes due to their seed shatter, or in cases where the crop matures unevenly or is lodged. Windrowing (when most of the crop is in the hard dough stage) is preferred for most species. Depending on windrow size and weather, combining can occur 3 to 5 days after swathing. This is a critical period for seed losses; wind can blow dry windrows into fences or shelter belts where they are inaccessible to combines. Combine air flow and cylinder speed should be slow, and cylinder spacings vary depending on species. For some grass seed crops, drying is necessary because of the moisture content of harvested debris. Keep several pounds of combine-run seed from each field for later reference of purity, cleanout, and viability. The ultimate sale of your seed will depend on the amount of pure, viable grass seed after it has been cleaned and processed.
4. Marketing - Processing for high quality seed is necessary after harvest. Grass seed requires several cleaning processes different than those used for small grains, depending on species. Again, deal with reputable seed cleaning plant operators to assist with processing and marketing your crop. Additionally, they can help with timing harvest, storage, and identification of contaminant species. In many cases, the Forest Service and other agencies are directly contracting for native seed production through established seed companies and growers. A new outlet for marketing and information specifically for Indian ricegrass has been formed as a cooperative. There are groups active with other seed crops, such as organic processors.

## Summary

Be cautious in your attempt to “get rich” growing native grass seed. There are good economic opportunities in grass seed production. However, to be successful requires a good knowledge of biology and the willingness to learn new production techniques and active marketing. Remember – if it were easy, every producer would already be doing it. The use of native grass seed is expected to increase, but there is no way to forecast future grass seed prices. Many experienced producers have established fields of native grasses to capitalize on current prices. As with most crops, prices may drop as production stabilizes. However, due to the number of different species, varying utilization, and inherent difficulties of seed production in native grass species, there will likely be numerous niche seed markets for a number of years. Producers are encouraged to visit with their local Extension Service agents and NRCS staff for information on grass seed production.